

III. REMARKS

Claim 10 is currently amended to correct the typographical error noted by the Examiner. No other claims are currently amended.

The Examiner has made the Office Action of 1/25/06 final. Applicants request that the Examiner reconsider the finality of the action. The Examiner cites Gordon in rejecting claims 11, 14-17, 19-20, 22, and 24-28, but has not previously cited Gordon. As this new ground of rejection was not necessitated by the Applicants' amendment, the finality of the action should be withdrawn. This issue is further discussed below in the context of the specific claims.

The Examiner has rejected claims 1-5, 7-10, and 13 under 35 U.S.C. 102(b) as being anticipated by Mages. Mages shows, in Figs. 1 to 3, a frame 1 which is connected in a stationary manner with a wall element 2 by two angled frame elements 3,4 carries an elevator 5. Platforms 7 which are adjustable horizontally in the direction of the wall element 2 in a guide 8 which is secured at the elevator 5 serve as a holding means for transporting containers 6. The platforms 7 are movable by means of the elevator 5 between at least two planes 9 and 10 which are situated one above the other. While the plane 9 is situated at an ergonomically favorable height for charging the platform 7, the semiconductor processing installation is loaded and unloaded in plane 10. For this purpose, a charging opening 13 which can be closed by means of a closure 12 is worked into a shield 11. The shield 11 is adjustable in a vertical direction to the plane 10 along the wall 2 so as to be guided by guide means 14 and performs a sealing function relative to the opening of the wall

element 2. A transporting container 6 is coupled to the closure 12 by its container cover 15 in an adhering engagement by means of the horizontal displacement of one of the platforms 7 in the direction of wall element 2. For this purpose, suction elements 16 are incorporated in the closure 12, a hose connection, not shown, leading from the latter to a vacuum source.

According to Fig. 11 of Mages, a gripper 53 which is movable vertically and horizontally for transferring the transporting containers 46 is secured to a horizontal drive 55 by an extension arm 54. The horizontal drive 55 is in turn connected with an elevator 56. In the cover region, the transporting containers 46 have a handle 57 to be grasped automatically by the gripper 53. Sufficient space is left above each transporting container 46 for the extension arm 54 to act with the gripper 53 for transferring. After a transporting container 46 is grasped, it is transported horizontally from the storage shelf 45 into the open space 47 and is then transported vertically up to a plane which corresponds to the ergonomic height for manually charging the storage or to a plane for charging a platform of the loading and unloading device. When the plane is reached, the transporting container 46 is transferred to the platform or the transporting container holder 52 in the moved in position (Fig. 11 shows the transporting container holder in the moved out position). Displacement in the opposite direction is effected in an analogous manner.

To repeat what was noted in the Applicants' reply to the previous Office Action, Claim 1 recites a buffer transport for positioning a substrate magazine along a second axis oriented in a second direction from the vertical axis and a shuttle for transporting the substrate magazine along a third axis oriented

in a third direction different from the vertical and second directions. Claim 1 further recites that the buffer transport is operative for moving the substrate magazine between a first position and a second position, wherein when in the first position the substrate magazine communicates with the aperture, and when in the second position the substrate magazine is offset from the first position and is buffered, and wherein the first and second positions are horizontally coplanar. Mages shows something different.

The Examiner has stated that Applicants' arguments in response to the previous Office Action fail to comply with 37 C.F.R. 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. This criticism is unwarranted. The Applicants' arguments did point out specific distinctions believed to render the claims patentable over the Mages reference. The specific language of claim 1, believed to render that claim patentable, was clearly indicated and recited. While the Examiner may consider the recited language to be lengthy, 37 C.F.R. 1.111(b) does not impose a limit to length. It is not always possible to point out such specific distinctions with just a few words or a short phrase taken from the whole of the claim. With respect to the language from claim 1 recited in the argument of the last amendment (and recited again in the immediate preceding paragraph), the language is plainly self-referencing. The language identifies various axes, such as the vertical axis, second axis, and third axis. The language also describes various features, such as aspects of the buffer transport, shuttle, and first and second positions, and these descriptions reference the identified axes. To indicate

only a shorter section of claim language would, in all likelihood, alter the meaning of the language and therefore fail to point out the specific distinctions believed to render the claim patentable. Applicants have complied with 37 C.F.R. 1.111(b) and continue to do so.

Mages does not show all of the features of claim 1. The Examiner states that Mages teaches a buffer transport for positioning the one or more substrate magazines along a second axis oriented in a second direction. The Examiner also states that Mages teaches a shuttle for transporting the one or more magazines 6 along a third axis oriented in a third direction different from the first and second directions. However, the Examiner uses the same reference numbers (5,7,53,54 and 55) for both the buffer transport and shuttle. Thus it is unclear what he is considering as the buffer transport and what he is considering as the shuttle. Furthermore, the Examiner has not indicated what he is considering as the second axis, third axis, and second direction, but merely states "various" for each of these. For the purposes of advancing prosecution, the Applicants' choose to concentrate on other arguments favoring patentability. However, this should not serve as either an acceptance or denial of the conclusions drawn by the Examiner regarding the buffer transport and shuttle, nor of the vague statements made to support these conclusions.

Claim 1 recites that the buffer transport is operative for moving the substrate magazine between a first position and a second position, wherein when in the first position the substrate magazine communicates with the aperture, and when in the second position the substrate magazine is offset from the first position and is buffered, and wherein the first and second

positions are horizontally coplanar. The Examiner points to nothing in Mages describing these features. But the burden is clearly on the Examiner to put forth at least some factual basis supporting a rejection for anticipation. See, e.g., In Re Warner, 154 USPQ 173 at 177 (C.C.P.A. 1967) stating "We think that the precise language of 35 U.S.C. 102 that 'a person shall be entitled to a patent unless,' concerning novelty and unobviousness, clearly places a burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 and 103" Because the Examiner has pointed to nothing in Mages that discloses the above recited features, the rejections should be withdrawn and the claims allowed.

The Examiner has rejected claims 11, 14-17, 19-20, 22, and 24-28 under 35 U.S.C. 103(a) as obvious over Mages in view of Gordon. In the previous Office Action, the Examiner rejected these claims on the basis of Mages only. Applicants then pointed out in response that Mages does not specify to what the sensor 21 is mounted, nor the manner of mounting. Thus, Mages does not show a sensor, for mapping vertical locations of the substrates, mounted to the magazine door drive of the station, as recited in claim 14. The Examiner now, for the first time, cites Gordon as teaching a substrate-mapping sensor mounted to a magazine door drive. The Examiner has thus added a new ground of rejection. The feature that Gordon is cited as teaching was not newly added, and the new ground of rejection is thus not necessitated by applicants' amendments. The finality of the Office Action is therefore premature and should be withdrawn (see MPEP 706.07).

Claim 14 recites a fluidic magazine door drive for removing a door of a substrate magazine and thus opening the substrate

magazine, and for operating the aperture closure to open the aperture. Claim 14 also recites a sensor, for mapping vertical locations of the substrates, mounted to the magazine door drive of the station. Neither Mages nor Gordon show a fluidic magazine door drive. Gordon shows a vertical stack of wafers 82 as they would be carried within a cassette (Fig. 8). An end-effector 42 includes a wafer sensor 86. A door vertical-movement drive-mechanism 72 is operable to vertically move the end-effector. Vertical movement of the end-effector is used, in combination with the wafer sensor 86, to carry out a wafer-mapping operation. The door vertical-movement drive mechanism 72 includes a lead screw 102 together with a stepper motor 104 (col. 6 lines 12-21). During a mapping operation, data indicating the vertical position of the end-effector relative to the cassette is obtained by counting pulses supplied to the stepper motor 104 (col. 6, lines 54-64). This data is combined with data from the wafer sensor 86, and the combined data is then processed by a computer to determine vertical coordinate data for the wafers. Clearly the combination of Mages and Gordon is not sufficient to produce all of the features of claim 14, even if one would be motivated to combine the references, because neither reference discloses a fluidic magazine door drive.

The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the drive be any known drive, such as a fluidic or pneumatic, in order to save the expense of developing a new type of drive. The Applicants disagree. First of all, the stated motivation of saving the expense of developing a new type of drive would actually run counter to the Examiner's conclusion. This is because the stepper motor/lead screw combination as

shown in Gordon was already known. Clearly if one skilled in the art wanted to save the expense of developing a new type of drive, he would simply use the known stepper motor/lead screw arrangement instead of attempting to adapt fluidic drive technology from some other field of endeavor, and trying to apply it to magazine door drives. Secondly, even if one were motivated to make a fluidic magazine door drive, it would still not be obvious to provide all of the features of Claim 14. Specifically, one of ordinary skill in the art at the time the invention was made would not provide a fluidic magazine door drive and also provide a sensor, for mapping vertical locations of substrates, mounted to the magazine door drive of the station. As explained in Gordon, if the sensor is mounted on the door drive it is necessary to have data not just from the sensor, but also data indicating the vertical position of the door drive (and thus the position of the sensor that is mounted to the drive) in order to map the vertical locations of the substrates. In Gordon, the end-effector is moved vertically by communicating pulses to the stepper motor. Thus, the mechanism of Gordon provides a ready means to generate raw data corresponding to the vertical position of the sensor. The pulses are simply counted. However, with a fluidic drive there is no analogous means to generate this raw data. Merely combining the teachings of Mages and Gordon, and substituting a fluidic drive for the stepper motor/lead screw arrangement, would not produce something that is operable for mapping vertical locations of the substrates. This is further complicated by the fact that many fluids are compressible, and that in fluidic systems a fluid is often contained by hoses or seals that have some elasticity. In contrast, the lead screw of Gordon appears to be substantially rigid so that the pulse count to the stepper motor is able to indicate the true vertical

position of the sensor with sufficient precision and accuracy. Therefore it would not be obvious to one of ordinary skill in the art, at the time the invention was made, to provide a fluidic magazine door drive and also to provide a sensor, for mapping vertical locations of the substrates, mounted to the magazine door drive of the station, as recited in claim 14. Claim 14 is patentable over Mages and Gordon, and should be allowed.

Claims 2-5, 7-11, 13, 15-20 22, and 24-28 depend either from independent claim 1 or 14. While these dependent claims each contain their own patentable subject matter, these claims should also be allowable at least because they depend from allowable claim 1 or allowable claim 14. Accordingly, to expedite prosecution at this time, no further comments on these claims will be made.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

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Respectfully submitted,

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6/26/06

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